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## Summary of grazing research on Kansas conservation reserve program land

### Abstract

Animal performance and the net return per acre for four CRP research sites in Kansas in 1994 and 1995 were examined. Both mowing and prescribed burning increased animal performance in 1994. Mowing was economically feasible on one of the four sites. Prescribed burning was economically feasible on three of four sites. Mowing or burning treatments were not repeated in 1995, the second year of the analysis. Second-year animal performance was similar between the untreated plots and those that were mowed or burned in 1994. Net returns per acre for the site that was grazed by cow-calf pairs ranged from -\$5.96 to \$4.92. For the sites grazed by stockers, net returns per acre varied from -\$5.76 to \$22.46. The potential seems to be greater for grazing stockers than cow/calf pairs on post-CRP land.

### Keywords

Cattlemen's Day, 1996; Kansas Agricultural Experiment Station contribution; no. 96-334-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 756; Beef; Conservation reserve program; Cow/calf grazing; Stocker grazing

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## **SUMMARY OF GRAZING RESEARCH ON KANSAS CONSERVATION RESERVE PROGRAM LAND <sup>1</sup>**

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### **Summary**

Animal performance and the net return per acre for four CRP research sites in Kansas in 1994 and 1995 were examined. Both mowing and prescribed burning increased animal performance in 1994. Mowing was economically feasible on one of the four sites. Prescribed burning was economically feasible on three of four sites. Mowing or burning treatments were not repeated in 1995, the second year of the analysis. Second-year animal performance was similar between the untreated plots and those that were mowed or burned in 1994. Net returns per acre for the site that was grazed by cow-calf pairs ranged from -\$5.96 to \$4.92. For the sites grazed by stockers, net returns per acre varied from -\$5.76 to \$22.46. The potential seems to be greater for grazing stockers than cow/calf pairs on post-CRP land.

(Key Words: Conservation Reserve Program, Cow/Calf Grazing, Stocker Grazing.)

### **Introduction**

Congress established the Conservation Reserve Program (CRP) in 1985. Program goals included the reduction of erosion, protection of the long-term land productivity, improvement of water quality, enhancement of wildlife, reduction of sedimentation, reduction of surplus commodities, and income support for farmers.

The first CRP contracts expired in 1995. Contract holders with 1995 contracts were given the option to renew their contracts for an additional year. A vast majority of 1995 contract holders chose renewal. A major proportion of the CRP contracts in Kansas will expire during the next 2 to 3 years. Alternative uses of post-CRP land have been given little attention. In response to the need expressed by contract holders, a research project was initiated in Kansas to determine the effect of spring mowing or burning on grazing potential of CRP land. This report summarizes the grazing results for the first 2 years of the analysis.

### **Experimental Procedures**

An exemption was obtained from Kansas Consolidated Farm Services Agency to establish haying and grazing studies on CRP land. Five haying and four grazing sites were established in eight counties in 1994. The grazing sites and use were Edwards County (cow/calf grazing), Greeley County (early-intensive grazing of heifers), Kearny County (season-long grazing of steers), and Reno County (season-long grazing of steers).

Each CRP site was divided into: 1) no treatment, 2) spring mowing, and 3) spring burning plots. All animals were weighed and identified before being placed into the plots and weighed at the end of the grazing period. Data collected included days on grass, gain per head, average daily gain, gain per acre, and stocking rate.

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Weather conditions and condition of the grass were used to determine the length of the grazing season. In Edwards County, cow-calf pairs grazed for 144 days in 1994 and 168 days in 1995. In Greeley County, heifers grazed for 58 days in 1994 and 72 days in 1995. The steers on the Kearny County site grazed for 130 days in 1994 and 103 days in 1995. In Reno County, steers grazed for 103 days in 1994 and 141 days in 1995.

Budgets were used to estimate gross income, total cost, and net return per acre for each of the treatments. Long-term average (1990 to 1994) prices were used in the analysis. Per acre costs were estimated to be \$7.60 for mowing and \$2.00 for burning. Land ownership costs and the costs associated with fencing or developing a water source were not included in the cost analysis. All other costs, including hired and operator labor, were accounted for. Thus, the net return per acre for each analysis represents the return to land and management.

## **Results and Discussion**

Table 1 presents animal performance and net return per acre for each CRP research plot. Animal performance in 1994 was enhanced by either mowing or burning. Stocker performance in 1994 averaged .33 lb/day higher for the mowed treatment and

.72 lb/day higher for the burned treatment than for the untreated plots. In 1995, stocker performance was higher for the mowed or burned plots than for the untreated plots in Kearny and Reno counties. On the Greeley County site, stocker performance was highest on the untreated plot. The cow/calf site showed the least enhancement from mowing or burning. Calf performance was similar on the three plots during both years.

A comparison of net returns per acre in 1994 can be used to determine the economic feasibility of mowing or burning CRP before grazing. Although mowing increased grazing performance on each site, it was economically feasible only on the Reno County site. Prescribed burning, on the other hand, increased grazing performance and was economically feasible on the Greeley, Kearny, and Reno county sites. The increase in calf performance on the Edwards County site was not large enough to justify either mowing or burning. As expected, the differences in net returns per acre among the three treatments were not as large in 1995.

We can use an average of the net returns per acre on the burned plots to assess potential profitability of grazing CRP land. The average return for cow/calf grazing was about \$2 per acre. The average return for stocker grazing ranged from about \$10 to about \$15 per acre. Thus, stocker grazing seems to have more potential than cow/calf grazing on post-CRP land.

**Table 1. Animal Performance and Net Return per Acre from Grazing CRP Research Plots in Kansas**

Research Site and Treatment	1994		1995	
	Average Daily Gain, lb	Net Return per Acre, \$	Average Daily Gain, lb	Net Return per Acre, \$
<u>Edwards County</u>	——144 days——		——168 days——	
(Cow-calf grazing, calf performance)				
None	2.36	1.12	2.20	3.31
Spring mowed	2.44	-5.96	2.22	4.92
Spring burned	2.48	.22	2.12	4.28
<u>Greeley County</u>	——58 days——		——72 days——	
(Early-intensive grazing, heifers)				
None	2.73	12.03	2.56	17.11
Spring mowed	3.07	8.98	2.27	12.24
Spring burned	3.47	17.78	2.33	13.96
<u>Kearny County</u>	——130 days——		——103 days——	
(Season-long grazing, steers)				
None	1.16	.07	1.61	4.19
Spring mowed	1.27	-5.76	1.64	3.76
Spring burned	1.93	10.87	2.10	10.46
<u>Reno County</u>	——103 days ——		——141 days——	
(Season-long grazing, steers)				
None	2.01	13.15	1.15	2.55
Spring mowed	2.55	15.34	1.24	4.58
Spring burned	2.65	22.46	1.39	7.84